The SEVEN T’s of Highly Effective Supply Chains:
How surviving the future requires plenty of “T”!

Professor Richard Wilding
Cranfield School of Management
www.cranfield.ac.uk/som
www.richardwilding.info

Notes:

Cranfield School of Management is...
One of the largest postgraduate management schools in Europe...

Cranfield University .....  
• Established 1946 - TO £136m  
• 2,000 employees  
• 3,000 postgraduate students:  
  - 73% on taught degrees  
  - 27% research  
• Two 3*/4* hotels on campus  
• Over 10,000 alumni in 110 countries  
• 4th busiest airport in the UK!

Notes:
The SEVEN “T’s” Agenda & Themes

1. The need for “Transparency” in the global Supply Chain.
2. The need for “Trust” to sustain the supply chain.
3. “Time” not cost becomes our primary focus.
4. Developing “T shaped people”
5. “Touch” the customer through the supply chain.
7. Creating the “T shaped supply chain”.

Innovation

“Innovation is all about creating value, economic value, social value and/or environmental value through the application of ideas that are new to YOU.”
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Better Together! My Linkedin Network.

We live in a networked world!
The Nespresso Coffee Supply Chain Network

Notes:
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Notes:

DESIGNING THE SUPPLY CHAIN

Corporate Strategy

Competitive Strategy

Supply Chain Objectives

Supply Chain Process Design

Supply Chain Network Design

Supply Chain Information System Design

Supply Chain Organisation

Cranfield School of Management - The Demand Chain Management Community

Marketing

Logistics & Supply Chain Management

Demand Creation

Demand Fulfilment

The alignment of demand creation and fulfilment processes across functional and organisational boundaries

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**Demand Chain Management as a value delivery system**

Traditional product-oriented system

<table>
<thead>
<tr>
<th>CREATE THE PRODUCT</th>
<th>MAKE THE PRODUCT</th>
<th>SELL THE PRODUCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Design</td>
<td>Procure</td>
<td>Marketing</td>
</tr>
<tr>
<td>Process Design</td>
<td>Manufacture</td>
<td>Research</td>
</tr>
<tr>
<td></td>
<td>Service</td>
<td>Adverting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Promotion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Price</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sales &amp; Distribution</td>
</tr>
</tbody>
</table>

Value delivery system

<table>
<thead>
<tr>
<th>CHOOSE THE VALUE</th>
<th>PROVIDE THE VALUE</th>
<th>COMMUNICATE THE VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand value desires</td>
<td>Define Benefits/price</td>
<td>Product process design</td>
</tr>
<tr>
<td>Select target</td>
<td>Procure Manufacture</td>
<td>Distribute</td>
</tr>
<tr>
<td></td>
<td>Service</td>
<td>Price</td>
</tr>
<tr>
<td></td>
<td>Sales message</td>
<td>Advertising</td>
</tr>
<tr>
<td></td>
<td>Promotion, PR</td>
<td></td>
</tr>
</tbody>
</table>

Source: McKinsey

Notes:

**Linking customer value to supply chain strategy**

What do our customers value?

How do we translate these requirements into an offer?

What does it take to succeed in this market?

How do we deliver against this proposition?

Notes:
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Prof. Richard Wilding, Centre for Logistics & Supply Chain Management, Cranfield School of Management, Cranfield, Bedford, England, MK43 0AL Tel: +44 (0)1234 751122  Web: www.richardwilding.info

Notes:

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The 3T's of Highly Effective Supply Chains

Transparency

Agility

Time

Trust

The Wilding Hairdresser Rule of Transparency

“Any supply chain map or information must be easily understandable by your local Hairdresser!”

Notes:
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Gaining Transparency of Process

- Business Processes: Time, Scale
- Consumer Delivery: Management, Value, Queue, Re-Work
- Time: Decision, Adding, Adding, Time

Gaining Transparency of Time and Inventory.

- Commodity Market: Spinning (15), Knitting (10), Dyeing & Finishing (7), Sewing (18)
- Fibre: Yarn finished goods store, Grey stock: Finished fabric, Raw material: Finished goods warehouse
- Spinning: Fabric Supplier, Underwear Manufacturer, Retailer

Notes:

Source: Scott & Westbrook, UPDLM Vol.21 No.1
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Notes:

Transparency of Demand

"The total cost of sourcing, converting and delivering product is seldom the sum of the lowest functional costs of each element in the supply chain"

Notes:
Notes:

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---

Transparency of Cost

<table>
<thead>
<tr>
<th>Cost</th>
<th>New Process</th>
<th>Total</th>
<th>Transport</th>
<th>Production</th>
<th>Finished goods</th>
<th>Pick &amp; dispatch</th>
<th>FG stock</th>
<th>finance</th>
<th>Raw material</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>97.3%</td>
<td>102.8%</td>
<td>115.6%</td>
<td>63.6%</td>
<td>100.0%</td>
<td>66.4%</td>
<td>71.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20%</td>
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<tr>
<td>40%</td>
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<tr>
<td>60%</td>
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<td>80%</td>
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<td>100%</td>
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<td>120%</td>
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</tr>
</tbody>
</table>

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Customer Channels

However the market has moved on - customers no longer think silos

<table>
<thead>
<tr>
<th>Order Method</th>
<th>Pick Up In Store</th>
<th>Delivered to Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order By Phone</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Order By Internet</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Order In Store</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

---

Notes: Source: Neil Ashworth, Supply Chain Director Tesco.com – Presentation at RedShifinternational 2007

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Notes:
The ‘Pareto’ or 80/20 rule & Cost to Serve

<table>
<thead>
<tr>
<th>% Sales/profits</th>
<th>% Products/Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>50%</td>
<td>30%</td>
</tr>
<tr>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Notes:

Product / customer profitability as a result of the chain

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Product profitability – an extreme case

Source: LCP Consulting Ltd, www.lcpconsulting.com

Customer profitability – an extreme case

Source: LCP Consulting Ltd, www.lcpconsulting.com
Within typical company situations

Value Adding Time = 5%

Key features of organisations that are driven by Time

They place emphasis on:

- Responsiveness
- Customer Focus
- R&D and Innovation

Notes:
Rapid innovation

“My job is to make our products/services obsolete, before our competitors do”

Akio Morita, Chairman of Sony

Time is a Competitive Weapon
Gaining Transparency of Time

<table>
<thead>
<tr>
<th>New Product Development</th>
<th>Decision Making</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time from idea to market</td>
<td>Decision cycle time</td>
</tr>
<tr>
<td>Rate of new product introduction</td>
<td>Time lost waiting for decisions</td>
</tr>
<tr>
<td>Percent first competitor to market</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Processing and Production</th>
<th>Customer Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value added as percent of total elapsed time.</td>
<td>Response Time</td>
</tr>
<tr>
<td>Uptime x Yield</td>
<td>Quoted lead-time</td>
</tr>
<tr>
<td>Cycle time (per major phase of main sequence.)</td>
<td>Percent deliveries on time</td>
</tr>
<tr>
<td></td>
<td>Time from customer's recognition of need to delivery</td>
</tr>
</tbody>
</table>

Source: G Stalk, How Time-based Management Measures Performance

Notes:

“In fashion, stock is like food. It goes bad quick”

Jose María Castellanos, Former Inditex, CEO
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The entire Zara’s Supply Chain has been engineered for a “drum beat” time of ½ weeks and delivers fresh clothes at the end of it twice a week.

Notes:

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Time in Zara

“…Our in-house design and production capabilities enable us to offer fresh designs at our Zara stores twice a week throughout the year”…

From the IPO prospectus.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mind to Market</td>
<td>3 weeks</td>
</tr>
<tr>
<td>Mind to sell through</td>
<td>8 weeks</td>
</tr>
</tbody>
</table>

Visits per Year

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Zara</td>
<td>17</td>
</tr>
<tr>
<td>Competitors</td>
<td>3-4</td>
</tr>
</tbody>
</table>

Notes:

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The 4th Dimension: “T” shaped people.

- “I” shaped people only understand their own function.
- “T” shaped people understand the process they are part of and also their functional strengths.

C3 behaviour – an essential for supply chain success

Notes:
The SEVEN T's of Highly Effective Supply Chains.

Notes:

The diagram illustrates the relationship between C³ behaviour and trust, with outcomes ranging from Win/Lose or Lose/Win [1+1=1] to Win/Win [1+1=8].

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Notes:

Collaboration: Win/Lose or Lose/Win

John West and his Bear

Notes:
C³ behaviour and trust in 54 collaborative environments

![Chart showing C³ behaviour and trust relationship]

Notes:

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Unipart Logistics – Outsourcing Partnership Pyramid

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Notes:

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[Data and diagrams related to logistics and supply chain, with notes on the relationship between C³ behaviour and trust, and the Unipart Partnership Pyramid.]

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To measure is to know....

“If you can not measure it, you can not improve it”

Lord Kelvin
(Sir William Thomson)
1824 - 1907

Questions we all need to ask ..........

- How many business relationships do we have?
- Why are they important?
- Which ones are doing well and why?
- Which ones are NOT doing well and why?
- How do we identify hard targets for continuous relationship improvement, and remove risk?
- How do we do all of this jointly with our business partner?
- How do we do it with minimum effort and maximum effectiveness?

Notes:
Notes:

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Collaboration: success and failure
A poor relationship can be a source of risk

Lambert et al, 1996

Notes:

Are truly collaborative relationships always appropriate in Outsourcing?

Do you want to marry everyone!

Lambert et al, 1996

Notes:
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<table>
<thead>
<tr>
<th>Partnership Component Levels - Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLANNING</strong></td>
</tr>
<tr>
<td><strong>JOINT OPERATING CONTROLS</strong></td>
</tr>
<tr>
<td><strong>Lambert et al, 1996</strong></td>
</tr>
<tr>
<td><strong>Partnership Component</strong></td>
</tr>
<tr>
<td><strong>Low (Type 1)</strong></td>
</tr>
<tr>
<td><strong>Medium (Type 2)</strong></td>
</tr>
<tr>
<td><strong>High (Type 3)</strong></td>
</tr>
<tr>
<td><strong>Style</strong></td>
</tr>
<tr>
<td><strong>Level</strong></td>
</tr>
<tr>
<td><strong>Content</strong></td>
</tr>
<tr>
<td><strong>On ad-hoc basis</strong></td>
</tr>
<tr>
<td><strong>Focus on projects or tasks</strong></td>
</tr>
<tr>
<td><strong>Sharing of existing plans</strong></td>
</tr>
<tr>
<td><strong>Regularly Scheduled</strong></td>
</tr>
<tr>
<td><strong>Focus on process</strong></td>
</tr>
<tr>
<td><strong>Performed jointly, eliminating conflicts in strategies</strong></td>
</tr>
<tr>
<td><strong>Systematic: Both scheduled and ad-hoc</strong></td>
</tr>
<tr>
<td><strong>Focus is on relationship</strong></td>
</tr>
<tr>
<td><strong>Performed jointly and at multiple levels, including top management; objective is to mesh strategies; each party participants in other’s business planning</strong></td>
</tr>
</tbody>
</table>

**Notes:**

Zara broke the “functional” company by learning from Toyota!

“you must have 5 fingers touching your factory and 5 touching the customer”

Ortega (…since 1975), Inditex (Zara)

“The only thing we do is look at the time line from the moment a customer gives us an order until we get the cash. Our work is to reduce that time eliminating waste, actions with no value”

Taiichi Ohno (Founder of TPS)

**Notes:**
Retailer example – How a customer Touches the business.

<table>
<thead>
<tr>
<th>Channel</th>
<th>Pre-transaction</th>
<th>Transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Awareness</td>
<td>Research</td>
</tr>
<tr>
<td>Store</td>
<td>Visit store to see product</td>
<td>Collect from store</td>
</tr>
<tr>
<td>On line</td>
<td>On line product chooser Check in store availability</td>
<td>Compare products Read customer reviews Purchase on line</td>
</tr>
<tr>
<td>Phone</td>
<td>Receive buyer guide Browse latest releases</td>
<td>Guidance from staff</td>
</tr>
<tr>
<td>Catalogue</td>
<td>Receive buyer guide Browse latest releases</td>
<td></td>
</tr>
</tbody>
</table>

T shaped Products and Supply Chain. The Power of Postponement

- Zara - Postpone final production
- Benetton - Postpone colour
- Other examples
  - HP
  - Microsoft
  - Paints
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Notes:

Decoupling points and strategic inventory

Driven By Demand

Driven By Forecast

Plants Distribution Centres Warehouses Depots

Postponement in Clothing

V shaped to T shaped

Notes:
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The de-coupling point

**Lean**
- Forecast at generic level
- Economic batch quantities
- Maximise efficiencies

**Agile**
- Demand driven
- Localised Configuration
- Maximise effectiveness

Factors contributing to Supply Chain Risk & Organisational Stability.

- The adoption of Lean “anorexic” practices.
- The globalisation of Supply Chains
- Focussed Factories and Centralised Distribution
- The trend to outsourcing
- Reduction in the supplier base
- Volatility of demand
- Lack of transparency and control procedures

Notes:
How are the following related?

The Seven Valley Steam Railway

Gilbert Presentation
  Rugby Ball

Leather Luxury Car Seat

How are the following related?

Notes:
A key message on Risk within Supply Chains.

Accept uncertainty is inherent in supply chains……

“If a man presumes certainty, he shall end with doubts, but if he will be content with doubts, he will end with certainties”.

Francis Bacon 1561-1626
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Becoming “T” shaped is up to YOU

- Is YOUR organisation capable of collaboration?
- Do YOU have the skill set required, IQ and EQ?

Notes:

Conclusion

Surviving the Future requires “T”

- Transparency
- Trust
- Time
- T shaped People
- Touching the Customer
- T shaped products
- T shaped supply chains

Notes:
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Links and further information

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- www.facebook.com/supplychainprofessor
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Links & Further Information

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Economist Ranking of MBA Programmes
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Notes:
Please keep in touch!

If you would like further information on the techniques described in this presentation, for example, supporting journal articles, or would like to discuss the content further, please don’t hesitate to contact the author at the following address:

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Notes:
Professor Richard Wilding, BSc, PhD, CEng, Eur Ing, FIET, FCILT.
Full Professor and Chair in Supply Chain Strategy.

As Chair (Full Professor) in Supply Chain Strategy at the Centre for Logistics and Supply Chain Management, Cranfield School of Management U.K. Richard works with European and International companies on logistics and supply chain projects in all sectors including pharmaceutical, retail, automotive, high technology, food drink and professional services to name a few. He is a highly acclaimed presenter and regularly speaks at Industrial Conferences and has undertaken lecture tours of Europe and Asia at the invitation of local Universities & Confederations of Industry. He has published widely in the area of supply chain management and is Editorial Advisor to a number of top journals in the area.

Professor Wilding was winner of the “Individual Contribution Award” at the “European Supply Chain Excellence Awards 2010” this is presented to the individual who has made an outstanding contribution to supply chain excellence. In 2009 his biography was entered into the 162nd edition of “Who’s Who” described as “Britain’s most famous reference book” for those who have "reached the pinnacle of excellence in their field". At the European Supply Chain Distinction Awards 2008, received the 'Distinguished Service Award for Thought Leadership and Service to Supply Chain Management'.

Richard was appointed in 2005 as the first ever Full Professor and Chair of "Supply Chain Risk Management" in the World. This was in recognition of his significant contribution to this subject area. Supply chain risk is still a key focus of his research within the context of an organisations overall Supply Chain Strategy, thus enabling companies to create sustainable and resilient competitive advantage.

His Doctoral research, undertaken while employed at the University of Warwick, applied chaos and complexity science to logistics and supply chain management and resulted in the development of new management guidelines for supply chain re-engineering to mitigate risk. This innovative research received international media coverage including features on the BBC World Service and articles in the Times, Financial Times and New Scientist.

More recently his research into inventory policies of organisations in times of risk & uncertainty resulted in international media coverage including live interviews on BBC1 television news, BBC News 24, BBC Television’s “The Money Programme”, BBC 5 live and Independent Radio News. The research was also covered by the print media including the Financial Times, Sunday Times, The Guardian, and The Independent newspapers.

Richard is both a European and Chartered Engineer, he is a chartered fellow of both the Institute of Engineering and Technology (Manufacturing Division) and the Chartered Institute of Logistics & Transport (CILT). Professor Wilding was elected by the 20,000 members of the CILT U.K. to the Board, and is a Director and Trustee of the institute. He is a founder & steering Committee Member of the CILT "Logistics Research Network", a global network of academics and practitioners involved in state-of-the-art logistics and supply chain research. He is also Co-Chairman of the CILT "Leaders in Supply Chain" Forum, a group limited to the top 120 Logistics and Supply Chain Directors from Europe. Richard is also a Member of The Higher Education Academy in recognition of his innovative approaches to teaching and course design.

Richard’s special areas of interest include the creation of collaborative business environments, reducing supply chain vulnerability & risk, time compression and techniques for aligning supply chains to maximise customer value and reduce cost.

Web: www.richardwilding.info and www.cranfield.ac.uk/scm
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